



1

SEQUENCE LISTING

<110> BAO, GANG  
NIE, SHUMING  
NITIN, NITIN  
LACONTE, LESLIE

<120> MULTIFUNCTIONAL MAGNETIC NANOPARTICLE PROBES FOR  
INTRACELLULAR MOLECULAR IMAGING AND MONITORING

<130> 17625-0058

<140> 10/694,243

<141> 2003-10-27

<150> 60/421,361

<151> 2002-10-25

<160> 32

<170> PatentIn Ver. 3.2

<210> 1

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 1

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg  
1 5 10

<210> 2

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 2

Asp Ala Ala Thr Ala Thr Arg Gly Arg Ser Ala Ala Ser Arg Pro Thr  
1 5 10 15

Glu Arg Pro Arg Ala Pro Ala Arg Ser Ala Ser Arg Pro Arg Arg Pro  
20 25 30

Val Glu

<210> 3  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 3  
 Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys  
           1                  5                  10                  15

<210> 4  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 4  
 Arg Arg Trp Arg Arg Trp Trp Arg Arg Trp Trp Arg Arg Trp Arg Arg  
           1                  5                  10                  15

<210> 5  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 5  
 Thr Pro Pro Lys Lys Lys Arg Lys Val Glu Asp Pro  
           1                  5                  10

<210> 6  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 6  
 Cys Trp Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
           1                  5                  10                  15

Lys Lys Lys Lys  
                   20

<210> 7  
 <211> 40  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 7  
 Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
 1 5 10 15  
 Lys Lys Trp Cys Cys Trp Lys Lys Lys Lys Lys Lys Lys Lys Lys  
 20 25 30  
 Lys Lys Lys Lys Lys Lys Lys Lys  
 35 40

<210> 8  
 <211> 27  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 8  
 Gly Trp Thr Leu Asn Ser Ala Gly Tyr Leu Leu Gly Lys Ile Asn Leu  
 1 5 10 15  
 Lys Ala Leu Ala Ala Leu Ala Lys Lys Ile Leu  
 20 25

<210> 9  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 9  
 Gly Leu Phe Glu Ala Leu Glu Glu Leu Trp Glu Ala Lys  
 1 5 10

<210> 10  
 <211> 46  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 10

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Ala Lys Lys Lys Lys Lys  
20 25 30

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Arg Gly Asp  
35 40 45

<210> 11

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 11

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Gly Cys Met Phe Gly Cys Gly Gly  
20 25

<210> 12

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 12

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Ile Cys Arg Arg Ala Arg Gly Asp Asn Pro Asp Asp Arg Cys Thr  
20 25 30

<210> 13

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>  
 <221> MOD\_RES  
 <222> (17)  
 <223> Beta-Ala

<220>  
 <221> MOD\_RES  
 <222> (19)  
 <223> Lys coupled to biotin (D-biotin)

<220>  
 <221> MOD\_RES  
 <222> (20)  
 <223> Beta-Ala

<400> 13  
 Lys Lys Trp Lys Met Arg Arg Asn Gln Phe Trp Val Lys Val Gln Arg  
       1                  5                  10                  15

Ala Lys Xaa Ala  
                   20

<210> 14  
 <211> 30  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 14  
 Val Ala Tyr Ile Ser Arg Gly Gly Val Ser Thr Tyr Tyr Ser Asp Thr  
       1                  5                  10                  15

Val Lys Gly Arg Phe Thr Arg Gln Lys Tyr Asn Lys Arg Ala  
                   20                  25                  30

<210> 15  
 <211> 32  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           peptide

<400> 15  
 Ile Gly Arg Ile Asp Pro Ala Asn Gly Lys Thr Lys Tyr Ala Pro Lys  
       1                  5                  10                  15

Phe Gln Asp Lys Ala Thr Arg Ser Asn Tyr Tyr Gly Asn Ser Pro Ser  
                   20                  25                  30

<210> 16  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 16  
 Pro Leu Ala Glu Ile Asp Gly Ile Glu Leu Thr Tyr  
 1 5 10

<210> 17  
 <211> 30  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 17  
 Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
 1 5 10 15

Gly Gly Pro Leu Ala Glu Ile Asp Gly Ile Glu Leu Gly Ala  
 20 25 30

<210> 18  
 <211> 30  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 18  
 Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
 1 5 10 15

Gly Gly Pro Leu Ala Glu Ile Asp Gly Ile Glu Leu Cys Ala  
 20 25 30

<210> 19  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 19

Gly Ala Leu Phe Leu Gly Phe Leu Gly Gly Ala Ala Gly Ser Thr Met  
 1 5 10 15

Gly Ala Trp Ser Gln Pro Lys Ser Lys Arg Lys Val  
 20 25

<210> 20

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 20

Trp Glu Ala Lys Leu Ala Lys Ala Leu Ala Lys Ala Leu Ala Lys His  
 1 5 10 15

Leu Ala Lys Ala Leu Ala Lys Ala Leu Lys Ala Cys  
 20 25

<210> 21

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 21

Leu Ala Arg Leu Leu Ala Arg Leu Leu Ala Arg Leu Leu Ala Arg Leu  
 1 5 10 15

Leu Ala Arg Leu Leu Ala Arg Leu  
 20

<210> 22

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 22

Lys Leu Leu Lys Leu Leu Lys Leu Trp Leu Lys Leu Leu Lys Leu  
 1 5 10 15

Leu Leu

<210> 23  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 23  
 Lys Lys Lys Lys Lys Lys Lys Lys Gly Gly Cys  
       1                      5                      10

<210> 24  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 24  
 Lys Trp Lys Lys Lys Trp Lys Lys Gly Cys Cys  
       1                      5                      10

<210> 25  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 25  
 Arg Trp Arg Arg Arg Trp Arg Arg Gly Gly Cys  
       1                      5                      10

<210> 26  
 <211> 42  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide

<400> 26  
 Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
       1                      5                      10                      15



Lys Lys Lys Lys Lys Lys Lys Gly Gly Lys Lys Lys Lys Lys Pro Asp  
                             20                            25                            30

Glu Val Lys Arg Lys Lys Lys Pro Pro Thr  
                   35                            40

<210> 27

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic probe

<400> 27

gagtccttcc acgatactac gatccacatt

30

<210> 28

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic probe

<400> 28

aatgtggatc gtagtatcgt cgaaggactc

30

<210> 29

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 29

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg  
   1                            5                            10

<210> 30

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 30

cgacggagtc cttccacgat accacg

26

<210> 31  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 31  
cgacggagaa agggctgcca cg

22

<210> 32  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 32  
cgacgcgaca agcgcaccga tacg

24